I CLAIM:

1. A continuous sampling arrangement, comprising:

(a) a bag within which a sample is collected;

(b) a tube being in fluid communication with the bag;

(c) a needle in fluid communication with the tube;

(d) an elbow pipe having an internal volume and an aperture, said elbow pipe being arranged and configured for operative connection to a closed fluid flow line from which a fluid sample is to be taken;

(e) a removable septum positioned within the aperture, the septum constructed for penetration of the needle therethrough to provide fluid communication between the internal volume of the elbow pipe and the bag.

2. The sampling arrangement of claim 1, wherein the aperture is positioned adjacent to a non-laminar fluid flow region of the elbow pipe.

3. The sampling arrangement of claim 1, wherein the septum comprises:

(i) a penetrable body;

(ii) a cap piece in contact with at least a portion of the penetrable body; and

(iii) a penetrable layer at least partially covering a portion of the cap piece.

4. The sampling arrangement of claim 3, wherein the penetrable body comprises a rubber construction.

5. The sampling arrangement of claim 3, wherein the penetrable body comprises a silicon construction.

6. The sampling arrangement of claim 3, wherein the penetrable body defines a volume of mass having a tapering diametric shape, the diameter proximate the cap piece corresponding to the diameter of the aperture of the elbow pipe.

7. The sampling arrangement of claim 3, wherein the septum includes an integral cap piece and penetrable body construction.

8. The sampling arrangement of claim 3, wherein the tubing is in fluid communication with the internal volume of the elbow pipe by insertion of the needle through the penetrable body of the septum.

9. The sampling arrangement of claim 3, wherein the cap piece includes a plurality of openings configured to guide the needle into the penetrable body of the septum during needle insertion.

10. The sampling arrangement of claim 9, wherein the plurality of openings is at least partially covered by the penetrable layer, the penetrable layer providing a visible indication of previously penetrated openings.

11. The sampling arrangement of claim 1 wherein the aperture includes an outwardly extended portion defining an internal diameter sized to receive the septum.

12. The sampling arrangement of claim 11 wherein the aperture further includes a male threaded section on the outwardly extended portion, and a threaded nut sized to cooperatively engage the male threaded section to secure the septum within the extended portion of the aperture.

13. The sampling arrangement of claim 1, wherein the elbow pipe includes coupling ends, each coupling end having a flange that further defines a groove to receive a sealing member, wherein the elbow pipe configuration is configured to retrofit within an existing fluid transportation system.

14. The sampling arrangement of claim 1, wherein the arrangement further includes a flow control device to regulate the fluid flow from the elbow pipe to the bag.

15. The sampling arrangement of claim 14, wherein the flow control device includes a clamp to restrict fluid flow to the bag.

16. The sampling arrangement of claim 14, wherein the flow control device includes a peristaltic pump to regulate fluid flow to the bag.

17. A continuous sampling system, comprising:

(a) a fluid transportation structure having a portion configured therein to create a non-laminar fluid flow in a sampling region,

(b) an opening located in the sampling region,

(c) a sampling assembly having a penetrable member positioned in the opening that permits sampling in the sampling region while simultaneously sealing the sampling region to facilitate aseptic, continuous fluid flow sampling from the sampling region of the fluid transportation structure to a collection reservoir.

18. A method of continuous aseptic sampling, comprising the steps of;

(a) providing a fluid transportation structure that creates a non-laminar flow of a fluid in a sampling area within a fluid transportation system, the fluid transportation structure including an aperture located proximate the non-laminar sampling area;

(b) providing a replaceable septum to seal the aperture of the fluid transportation structure and prevent the introduction of contaminates into the sampling area, the septum including an outer surface area and a plurality of guide holes covered by an cover piece that provides indication of used guide holes and unused guide holes;

(c) providing a sterilized penetrating member, tubing, and a reservoir, wherein the penetrating member, tubing and reservoir are all in fluid communication with each other, the tubing and reservoir being sealed from environmental contaminates;

(d) performing aseptic cleansing of the outer surface area and cover piece of the septum;

(e) inserting the sterilized penetrating member into an unused guide hole wherein the guide hole directs the penetrating member into and through the septum, the

septum constructed to further wipe and remove contaminates from the penetrating member during insertion; and

(f) creating a pressure differential between the reservoir and the fluid transportation structure such that a sampling fluid continuously flows from the fluid transportation structure to the reservoir.

19. The method of claim 18, wherein the method of continuous aseptic sampling includes removing the penetrating member from the septum upon obtaining a sufficient sample size, the septum functioning to re-seal the sampling area to prevent entry of contaminates into the sampling area after removal of the penetrating member.

20. The method of claim 18, wherein the method of continuous aseptic sampling includes monitoring fluid flow and controlling flow rate by selectively introducing or increasing a restriction on the tubing.

21. The method of claim 20 wherein controlling the flow rate by introduction of a restriction is accomplished by use of a clamp.

22. The method of claim 20, wherein controlling the flow rate by introduction of a restriction is accomplished by use of a peristaltic pump.

23. A retrofit kit for use in taking a continuous fluid sample from an existing fluid transportation system, the retrofit kit comprising:

(a) a pipe having an aperture and an angular configuration, the pipe being sized and configured to retrofit to the existing fluid transportation system such that fluid from said system flows through said pipe;

(b) a septum that sealably inserts into the aperture of the pipe;

(c) a sampling body sized for insertion into and through the septum to contact said fluid flowing through said pipe;

(d) a closed sampling container having an inlet; and

(e) a tube extending in fluid communication between said sampling body and said inlet, wherein the retrofit kit provides fluid communication between said sampling body and the sampling container for obtaining and collecting an aseptic, continuous sample of said fluid within said sampling container.

24. A fluid transportation system with aseptic sampling capability, the fluid transportation system comprising:

(a) a closed structure portion for containing a fluid to be sampled;

(b) a sampling structure in fluid communication with said closed structure portion, said sampling structure defining a non-laminar flow region for said fluid and an aperture opening into said non-laminar flow region;

(c) a penetrable sealing member sealably positioned within the aperture of the sampling structure;

(d) a penetrating body inserted through said penetrable sealing member providing a flow path for said fluid therethrough;

(e) a closed sample holding container; and

(f) a closed conduit operatively connecting said penetrating body and said sample holding container; wherein a continuous sample of said fluid flows in one direction from said non-laminar flow region for aseptic collection within said sample holding container.

25. A system as recited in claim 24, wherein said closed structure portion comprises a milk processing apparatus.